

TECHNICAL REVIEW DOCUMENT

For Renewal of

OPERATING PERMIT 95OPPB098

to be issued to:

CF&I Steel, LP
dba Rocky Mountain Steel Mills
Utilities
Pueblo County
Source ID 1010048

February 11, 2004

Purpose

This document will establish the basis for decisions made regarding the Applicable Requirements, Emission Factors, Monitoring Plan and Compliance Status of Emission Units covered within the renewed Operating Permit proposed for this site. The original Operating Permit was issued October 1, 1998, and expires on October 1, 2003. This document is designed for reference during review of the proposed permit by the EPA, the public and other interested parties. The conclusions made in this report are based on information provided in the permit renewal application submitted on October 1, 2002, previous inspection reports and various e-mail correspondence, as well as telephone conversations with the applicant. Please note that copies of the Technical Review Document for the original permit and any Technical Review Documents associated with subsequent modifications of the original Operating Permit may be found in the Division files as well as on the Division website at <http://www.cdphe.state.co.us/ap/Titlev.html>. This narrative is intended only as an adjunct for the reviewer and has no legal standing.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit renewal application have been reviewed in accordance with the requirements of Colorado Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This Operating Permit incorporates and shall be considered to be a combined Construction/Operating Permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this Operating Permit without applying for a revision to this permit or for an additional or revised Construction Permit.

In addition to the changes requested by RMSM in the renewal application the Division has included changes to make the permit more consistent with recently issued permits, include comments made by EPA on other Operating Permits, as well as correct errors or omissions identified during inspections and/or discrepancies identified during review of this renewal.

Source Description

The steel plant is located in Pueblo County at the southern edge of the City of Pueblo, Colorado. The area in which the plant operates is designated as attainment for all criteria pollutants. The total plant emissions classify the plant as a major source with respect to Prevention of Significant Deterioration (PSD) requirements.

Rocky Mountain Steel Mills (RMSM) uses two (2) electric arc furnaces to produce steel. The steel is then used in the production of various steel products. RMSM elected to divide the plant by major

production function and submit separate Title V permits for each production function. This places the compliance responsibility on the designated production manager making the operating, budget and scheduling decisions. For this document the word “Mill” will be used to refer to the various processes related to the production function. The word “Mill” is not referring to a separate facility. The following separate Title V operating permits were issued for the RMSM plant:

Rail Mill	95OPPB086	Steelmaking	95OPPB097
Rod/Bar Mill	95OPPB088	Seamless	95OPPB089
Seamless Mill	95OPPB089		

The utility operations are general facility support activities for the entire plant. Utility operations have the responsibility for the cooling towers, fuel storage, haul roads, material storage piles, wastewater treatment ponds and plant solvent usage. The wastewater ponds are used to remove oil and grease in the water collected in the ponds. RMSM has estimated the emissions from the wastewater treatment ponds are below the APEN reporting threshold, and requested the ponds be included as an insignificant source.

The following tables display the Potential to Emit for the individual production processes as reported in the separate Title V renewal applications, and the total Potential to Emit for the plant. The actual emissions reported in the Division database for the 2002 data year are included for comparative purposes.

UTILITIES
POTENTIAL TO EMIT, TONS PER YEAR

	PM	PM ₁₀	NO _x	SO ₂	VOC	CO
Fueling Station					2.40	
Cooling Towers	23.48	23.48				
Haul Roads ¹	60.43	33.88				
Storage Piles ¹	5.70	5.70				
Solvent Usage					4.48	
TOTAL	89.61	63.06			6.88	
Division Database - 2002 Actual Emissions	149.9	94.0			5.91	

¹ Fugitive Particulate (Dust) Emissions

PLANT POTENTIAL TO EMIT, TONS PER YEAR

	PM	PM ₁₀	NO _x	SO ₂	VOC	CO	Lead
Rail Mill	2.74	2.74	100.93	0.22	3.78	30.28	
Rod/Bar Mill	3.29	3.29	121.1	0.26	5.28	36.33	
Seamless Mill	8.42	8.42	219.7	0.66	35.86	93.12	
Steelmaking	368.1	212.6	707.3	779.1	390.9	20,047	10.3
Utilities	89.6	63.1			6.88		
TOTAL	472.2	290.2	1149.03	780.2	442.7	20,206	10.3
Division Database - 2002 Actual Emissions	268.9	193.8	542.6	267.6	120.3	1234	0

PTE PLANT EMISSIONS PROVIDED BY RMSM

	Rail, Pounds	Rod/Bar, Pounds	Seamless, Pounds	Steel, Pounds	Utilities, Pounds	TOTALS		Division Database 2002 Plant Totals, Tons
						Pounds	Tons	
Lead	0.36	0.43	1.11	3773.4	62.3	3775.3	1.89	2.1
Toluene 108883	126.4	197.1	2427.2			2813.1	1.41	
MIBK 108101	3.46	52.70	3127.9			3184.1	1.59	
Arsenic Compounds	0.14	0.17	0.44	19.0		19.8	0.01	0.01
Cadmium Compounds	0.79	0.95	2.66	91.0		95.4	0.05	0.02
Chromium Compounds	1.01	1.21	12.1	517.0		531.3	0.27	0.12
Mercury	0.19	0.23	0.58	617.0		618.0	0.31	0.14
Manganese	0.27	0.33	0.84	12565.0	24.0	12566.4	6.28	2.80
Nickel Compounds	1.51	1.82	4.65	82.0		90.0	0.04	0.02
Methanol 67561	27.9	31.2	99.9			159.0	0.08	1.39
2-Butoxyethanol 111672	81.4		757.2			838.7	0.42	
Xylene 1330207	31.9		4480.6			4536.5	2.27	
MEK 78933	98.4	163.9	1544.4			1806.7	0.90	
Glycol ethers	92.9	21.4	1354.8			1469.1	0.73	1.92
Methylene chloride 75092	126.8		0		0.12	126.9	0.06	
Hexane 110543	1300.0	1560.0	3993.0		76.7	6929.7	3.46	
Benzene	1.51	1.82	4.65		43.16	51.14	0.03	

	Rail, Pounds	Rod/Bar, Pounds	Seamless, Pounds	Steel, Pounds	Utilities, Pounds	TOTALS		Division Database 2002 Plant Totals, Tons
						Pounds	Tons	
Formaldehyde 50000	54.1	64.9	166.3		38.4	285.3	0.14	
2,2,4- Trimethylpentane 540841						38.4	0.02	
Ethylene glycol	21.9	147.3	0			169.2	0.08	
Vinyl Acetate			50.6		0.36	50.6	0.03	
Napthalene						0.36	0	
Dichlorobenzene						0.12	0	
Perchloroethylene 127184					0.12			0.04
1,1,2- Trichloroethane, 79005								0.04
TOTALS, lbs	1971.0	2245.4	18029.0	17664.4	245.22	40154.9		
TOTAL, tons	0.99	1.12	9.01	8.83	0.12	20.08	20.08	8.60

^a Chemical Abstract Services identification number

There are no permit limits for the HAPs. The Potential-To-Emit is an approximation based on current material usage projected to the reported design production rate of the various activities.

Emission Sources

The following sources are specifically regulated under terms and conditions of the Operating Permit for this production center.

General Plant Solvent Usage

1. Applicable Requirements: The source is grandfathered from the regulatory requirement for a construction permit. The estimated emissions must be determined for each calendar year for payment of emission fees.

Engineering judgment and experience find that this type of emission source would not be expected to violate the 20% opacity standard of Colorado Regulation No. 1, Section II, A.1. On that basis, the Division believes it is not necessary to include the 30% opacity standard of Colorado Regulation No. 1, Section II, A.4 as an applicable requirement for this source.

2. Emission Factors: RMSM previously used Safety Kleen 105 solvent throughout the plant. They have discontinued using Safety Kleen, but still have some general solvent use for various activities. A simple process related emission factor can not be developed for the solvent volatile organic compound emissions because of the wide variation in the type of material used and the variation of the volatile organic compound content of the materials used in cleanup. The estimated annual emissions must be calculated from a mass balance procedure using the material use inventory and the appropriate volatile organic compound content of the material. Some of the materials may be recovered in the waste handling practices. An inventory of the recovery must be maintained if the recovery is to be deducted from the emissions estimates.

3. Monitoring Plan: The estimated volatile organic compound emissions will be calculated based on the material consumption as noted above. The Division experience has been that a monthly evaluation of the material use inventory provides for improved accounting of the use of the various materials. The estimated emissions, however, will be calculated on an annual basis. The Division accepts that this type of source is not expected to create an opacity problem and opacity monitoring is not required. Since the material content may change with a new purchase, the Material Data Safety Sheets (MSDS) for the materials must be kept on-site for review during any inspection.

4. Compliance Status: The Division accepts that this source was in compliance at the time the application was prepared based on the information provided in the application and other available information.

Fueling Station

1. Applicable Requirements: The source is grandfathered from the regulatory requirement for a construction permit. The estimated emissions must be determined for each calendar year for payment of emission fees.

Engineering judgment and experience find that this type of emission source would not be expected to violate the 20% opacity standard of Colorado Regulation No. 1, Section II, A.1. On that basis, the Division believes it is not necessary to include the 30% opacity standard of Colorado Regulation No. 1, Section II, A.4 as an applicable requirement for this source.

2. **Emission Factors:** The emission are estimated by the use of the EPA TANKS4 software to determine the storage tank emissions. AP-42 is used for the volatile organic compound emissions for the dispensing of the fuel. The sum of the two values is reported as the estimated emissions.
3. **Monitoring Plan:** The Division's experience has been that an determination of the fuel throughput is satisfactory for the determination of the emissions.
4. **Compliance Status:** The Division accepts that this source was in compliance at the time the application was prepared based on the information provided in the application and other available information.

Cooling Towers

1. **Applicable Requirements:** The source is grandfathered from the regulatory requirement for a construction permit. The estimated emissions must be determined for each calendar year for payment of emission fees.
2. **Emission Factors:** Cooling tower emissions are created by the loss of water droplets to the atmosphere. The evaporation of the droplet leaves the mineral content of the water as PM₁₀ particulate emissions. The water droplet loss is identified by the drift loss. An AP-42 factor was used for the drift loss. The amount of the drift loss is related to the tower design and the water flow rate through the tower. The mineral content (Total Dissolved Solids) of the recirculating water is a function of the mineral content of the fresh water supplied and the amount of water lost by evaporation from the tower. There are four (4) separate cooling towers, each with its' own flow rate and each with a slightly different amount of dissolved solids in the tower recirculating water. The total dissolved solids values for the towers are all in a similar range allowing the use of an average total dissolved solids content for the towers.
3. **Monitoring Plan:** The cooling tower emissions are primarily water vapor making an opacity observation invalid. It is not reasonable to assume that the amount of total dissolved solids released from the evaporation would be of a magnitude to create an opacity problem. The amount of water circulated through the tower will be recorded on a monthly basis to allow recognition of tower down times. An annual determination of the total dissolved solids is considered to provide adequate information to estimate the particulate emissions.
4. **Compliance Status:** The Division accepts that this source was in compliance at the time the application was prepared based on the information provided in the application and other available information.

Haul Roads & Storage Piles:

The January 26, 2000 Fugitive Emission Control Plan applies to the RMSM Utilities Operating Permit. RMSM must follow this plan or the latest Division approved plan.

Accidental Release Program – 112(r)

Section 112(r) of the Clean Air Act mandates a new federal focus on the prevention of chemical accidents. Sources subject to these provisions must develop and implement risk management programs that include hazard assessment, a prevention program, and an emergency response program. They must prepare and implement a Risk Management Plan (RMP) as specified in the Rule.

Based on the information provided by the applicant, this facility is not subject to the provisions of the Accidental Release Prevention Program (Section 112(r) of the Federal Clean Air Act).

Emission Factors

From time to time published emission factors are changed based on new or improved data. A logical concern is what happens if the use of the new emission factor in a calculation results in a source being out of compliance with a permit limit. For this Operating Permit, the emission factors or emission factor equations included in the permit are considered to be fixed until changed by the permit. Obviously, emission factors dependent on the fuel sulfur content or heat content can not be fixed and will vary with the test results. The formula for determining the emission factors is, however, fixed. It is the responsibility of RMSM to be aware of changes in the factors, and to notify the Division in writing of impacts on the permit requirements when there is a change in factors. Upon notification, the Division will work with the permittee to address the situation.

Alternative Operating Scenarios

No alternative operating scenarios were requested.

Permit Shield

The intent of the permit shield is to provide limited protection to the facility in the event of an error in the evaluation of whether a regulation, or portion of a regulation applies. The facility identifies an issue and presents its position. The Division reviews the position. If the Division and the facility mutually agree on the position, the issue is recorded in the permit. If, at a later date, it is determined that an error was made in the mutual decision, the facility is protected from enforcement action until the permit can be reopened and the correct requirements and a compliance schedule inserted.

For this Title V application, where a request for the shield protection for a specific applicable requirement, or a specific section of an applicable requirement, and a proper justification provided for the request, the shield was granted. The permit shield was not granted for requests for a blanket protection from all portions of a regulation. The Division finds this type of blanket protection is too broad and general for the shield protection to be properly interpreted and granted.

Compliance Assurance Monitoring (CAM) Plan

The following emission points at this facility use a control device to achieve compliance with an emission limitation or standard to which they are subject and have pre-control emissions that exceed or are equivalent to the major source threshold. They are therefore subject to the provisions of the CAM program as set forth in 40 CFR Part 64 as adopted by reference into Colorado Regulation No. 3, Part C, Section XIV:

None